

BTEC Assignment Brief

Qualification	Pearson BTEC Level 3 National Diploma in Esports Pearson BTEC Level 3 National Extended Diploma in Esports
Unit number and title	22 – Computer Networking
Learning aim(s)	A: Investigate how computer networks use networking communications protocols to provide effective and secure access to networking services and resources B: Investigate computer network design to meet client requirements C: Develop a computer network to meet client requirements.
Assignment title	Computer Networks for Esports
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You are applying for a job as a junior network technician for a company that designs and installs computer networks. The company are expanding their business and are wanting to assist clients who are developing networks for use with esports.
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Task 1	As part of the interview process, you have been asked to some pages for the company website which cover the following: An evaluation of different types of computer network models e.g. peer to peer, client/server, thin client. You should explain why different types of network, topologies and models are needed and consider current trends in networking e.g. BYOD and cloud computing. Your evaluation needs to be clear and balanced and consider a wide range of aspects including ease of use, ease of set-up, performance and suitability for different applications. You should illustrate your evaluation with examples of how the different network models are suitable for different networking applications covering both benefits and drawbacks and how they meet different client needs. You should also analyse the characteristics and functions of different networking components used to create different types of networks including LANs, WANs and wireless networks. You need to demonstrate an accurate understanding of the importance of protocols and standards in connecting various types of network. You should illustrate your analysis with examples of how data gets transferred within and between computer networks.
Checklist of evidence required	Text and illustrations for the webpages
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
A.P1	Explain the need for different computer network types and models.
A.P2	Explain the characteristics and functions of network components.

A.M1	Analyse the functions of different network components required to construct different network types.
A.D1	Evaluate different network models and their suitability to meet different client requirements.
Task 2	Congratulations, you got the job! Your supervisor has asked you to design, install, test and evaluate a network for a new esports club that are setting up locally. The network requires a server and six workstations connected by a wired network and should also provide WiFi access. Internet access and remote terminal access should also be provided. The network will require 2 groups of users (coaches and players) each with their own shared folder. The coaches' group should have full access to the players' shared folder, but the players should have no access to the managers' folder. The network should be scalable but does not need high availability features. It should be secure and protected from common threats and should be easily maintained. Cost should be kept to a minimum whilst providing a reasonable level of performance. Company procedures require you to prepare the content for an email to the client explaining why it is necessary to design the network and plan its implementation rather than just going ahead with installing it and how this ensures the network meets the organisations needs and design goals. Your supervisor will check and approve the content of this draft email before it is sent. You should then design a network to meet the customer's requirements including: • Details of the organisation goals and technical requirements and the network design aims and constraints • A physical design with an explanation of component selection, network diagrams and physical layout • A logical design with IP addressing and naming schemes. You should provide a written justification of the design decisions you have made, referring to both the technical and the customer's requirements. You should then develop, set up and configure the network following your design. You should also: • Test the network, completing a test plan, to ensure the functions the customer requires work as required. • Optimise the network, improving its performance, functionality or ease of use. • Write an evaluation of your design and implementation of the network and how effective it is at meeting the customer requirements. Your evaluation must be supported by evidence from all stages of the project, it should reach conclusions and suggest future developments. You must demonstrate that you have taken individual responsibility and deployed effective time-management in your design and development of a computer network, making high-quality justified recommendations and decisions. For example, you might show how you have: • Planned and managed your time and met targets. • Reviewed and responded to outcomes including the use of feedback from others • Behaved appropriately while completing the assignment – including professionalism, etiquette, supportive of others, timely and appropriate leadership, accountability and individual responsibility • Evaluated outcomes to help inform high-quality justified recommendations and decisions • Used appropriate methods of communication effectively.

Checklist of evidence required	• Draft email to customer • Design documentation • Written justification of design choices • Evidence of implementation (screenshots, annotated photos etc.) • Evidence of testing (video footage, annotated photos etc.) • Evaluation of the design and implementation of the network • Video footage, observation records etc. demonstrating individual responsibility and effective self-management in the planning and implementation of the network.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
B.P3	Explain the need for network design and planning strategies
B.P4	Design a network to meet client requirements
C.P5	Develop and configure a network to meet client requirements
C.P6	Test a network to ensure it meets client requirements
C.P7	Review the extent to which the network meets client requirements
B.M2	Justify the design decisions made, showing how the design will fulfil its purpose and meet client requirements
C.M3	Optimise a network to meet client requirements
BC.D2	Evaluate the network design and the implemented optimised network against client requirements
BC.D3	Demonstrate individual responsibility and effective self-management in the planning and implementation of the network
Sources of information to support you with this Assignment	Books Lowe, D. Networking All-in-One for Dummies. John Wiley & Sons, 2016, 978-1119154723 Severance C. R. et al. Introduction to Networking: How the Internet Works, CreateSpace Independent Publishing Platform, 2015, 978-1511654944